TECHNICAL REVIEW OF PERMIT NUMBER 1000151
(All American Pipeline Company, La Paz Pump Station)

GENERAL INFORMATION

I. GENERAL INFORMATION

Company Name:	All American Pipeline Company (AAPL)
Facility Name:	La Paz Pump Station
Mailing Address:	P.O. Box 40160 Bakersfield, CA 93384-0160
Facility Address:	6.5 miles east of Ehrenberg and south of Interstate 10 La Paz County
Responsible Official:	Michael R. Madden Manager, Permitting and Rights-of-Way P.O. Box 40160 Bakersfield, CA 93384-0160 (805) 398-5343

Basis for Title V Applicability:

The facility is a major source due to potential emission for Nitrogen Oxides exceeding 100 tons per year.

Attainment Classification:

La Paz Pump Station is located in an area which is in attainment or unclassified for all criteria pollutants.

II. FACILITY DESCRIPTION

All American Pipeline Company (AAPL) La Paz facility is one of a series of pump stations designed to transfer crude oil through the All American Pipeline, which runs from California to Texas. The facility combusts natural gas to operate its gas turbines. The mechanical power generated by these turbines operates pumps that are used to transport crude oil. Also on-site are two natural gas fired heaters, which are available to heat the incoming crude oil to reduce its viscosity(or increase its “pumpability”). These heaters are rarely fired, as the incoming crude oil is already relatively low in viscosity. These heaters are more frequently used as heat exchangers. Waste heat from the combustion of natural gas by the turbines is ducted to the heaters.

III. PERMITTED EQUIPMENT:

Permitted sources of air emissions at this facility include three natural gas-fired turbines rated at 36 MMBTU/HR (only two of three turbines are permitted to operate at any given time except 15 minutes to switch between operating units) and two 48.25 MMBTU/HR natural gas fired heaters. Neither the turbines nor the heaters are equipped with air pollution control devices. Some activities on site are classified as fugitive sources.

Other equipment on site is comprised mainly of an emergency generator, a scraper launcher/receiver, tanks and electric pumps. These activities generate very low quantities of air emissions. Further this equipment is not subject to any applicable regulations. Hence it qualifies to be insignificant activities pursuant to A.A.C.R18-2-101.54.

IV. LIMIT ON PRODUCTION RATE

On October 12, 1990 an initial performance test was conducted on all three Solar Centaur T-4000 Turbine Engines while operating at 80% of maximum pumping rate. Test results indicated compliance with the NOx standard under 40 CFR 60.332. However, because testing was not conducted at the maximum pumping rate, Operating Permit #1000095 was issued with a limit that required the Permittee to operate the turbine engines below 90% (80% plus a 10% buffer) of the maximum pumping rate.

During the 45-day EPA review of this Title V application, EPA Region IX during their 45-day review period determined that the initial performance testing of the turbine engines was not conducted in accordance with the requirements of 40 CFR 60.335(c)(3). This rule requires the source to conduct initial performance tests at 30, 50, 75, and 100% of load or as otherwise approved. Because this determination was made at the end of the 45-day review period, the Title V permit was vetoed.

Within the ninety day period following the veto, AAPL submitted a letter dated June 29, 1998 from Michael R. Madden to Steve Frey of U.S. EPA Region IX Enforcement Section requesting a partial waiver from the initial testing requirements of 40 CFR 60.335. In AAPL's request they state that they have a total of five pumping stations in Arizona. Each station has a total of three Solar Centaur T-4000 Turbines and all fifteen turbines are identical and operated in the same manner. It is also stated that AAPL has conducted 19 tests on their turbines throughout Arizona at loads varying from 24% to 79%. ADEQ has reviewed the test results submitted with this letter and it indicates that the turbines have the ability to operate in compliance with 40 CFR 60.332 over this range.

EPA Region IX responded to this request with a letter dated July 14, 1998 from Barbara L. Gross (Chief, Enforcement Office) to Michael R. Madden of AAPL. EPA Region IX approved AAPL's request for a partial waiver with the following conditions:

1. The turbine engines would be required to operate below 70% of Maximum pumping rate;
2. If AAPL wants to operate a turbine above this load it will be required to test at the higher load; and
3. AAPL would be required to monitor percent load to demonstrate compliance with 1 and 2 above.

The Title V permit has been updated based upon EPA Region IX's response. Section I.4. of Attachment B has been modified to incorporate a maximum pumping rate limit of 210,000 barrels per 24-hour period which is equivalent to 70% of the maximum pumping rate. Section II.B. of Attachment B has been modified to require AAPL to monitor and record the pumping rate. Section IV "Testing Requirements" of Attachment B has been updated to include the following:

1. Requirement to conduct a performance test for NOx within 12 months of permit issuance. This test will be utilized to determine compliance with 40 CFR 60.332 and provide a baseline for succeeding tests under paragraph 3 below;
2. Requirement to conduct a performance test for NOx if AAPL goes above 210,000 barrels per 24-hour period; and
3. Requirements for succeeding tests.

V. PROCESS RATE AND OPERATING HOURS:

Operating Hours: 8760 hours per year
Process Rate: 300,000 barrels of crude oil per day

VI. POLLUTANTS:

Nitrogen Oxides	Benzene
Carbon Monoxide	Formaldehyde
Sulfur Oxides	Acetaldehyde
Particulate Matter	Acrolein
VOC	Toluene
	Xylene

VII. EMISSIONS:

The Title V application provides the following potential emission rates:

NOx: 216.26 tpy
CO: 78.53 tpy
VOC: 5.71 tpy
SO_2: 0.4 tpy
PM10: 5.62 tpy

These emission rates were based on 8760 hours of operation per year and excluded insignificant activities and other fugitive sources. The PTE was calculated based on the operation of two turbines, two heaters and fugitive emission from ancillary piping components. The above emissions also included the emissions from 3,650 switches of 15 minutes switchover period between operating turbine units per year.

REGULATORY HISTORY

I. PRIOR PERMITS:

A. Installation permit #65007 for the installation of the three turbines and two heaters was issued on January 29, 1986.
B. Operating permit #74012-94 for facility-wide operation was issued on October 11, 1991.
C. Installation permit #75009 for installation of emergency generator was issued on October 3, 1990.
D. Minor permit revision #1000094 was issued on October 30, 1995. This minor permit revision replaces the allowable emissions rates for turbines in Attachment "C" of operating permit #74012-94 with the standards in the applicable regulation NSPS Subpart GG: Standards of Performance for Stationary Gas Turbines.

II. PERFORMANCE TESTS:

Date of Test	Equipment Tested	Pollutants Tested	Results
10/12/90 (Initial)	Three Turbines	NOx, CO	Pass
09/20/94	#1 Turbine	NOx, CO	Pass
05/22/97	#1 Turbine	NOx, CO	Pass

PERMIT CONTENTS: ATTACHMENT B

I. REGULATORY BASIS FOR EMISSION LIMITS/STANDARDS

The following table provides the regulatory basis for each permit emission limits/standards.

APPLICABLE RULE	SUPPORTING INFORMATION
40 CFR 60.11	This rule requires that good operating practice be used when the gas turbines are operating; it is a general provision for all NSPS sources.
Point Sources	
40 CFR 60.330 - 60.335	New Source Performance Standard(NSPS), Subpart GG applies to gas turbines, built after October 3, 1977. The gas turbines at AAPL were constructured in 1986 and installed in 1987, and therefore, are subject to these standards. Permit conditions in Sections I.A.1 and I.A.2 of Attachment "B" contain NSPS, Subpart GG emission standards applicable to the gas turbines.
R18-2-724 R18-2-306.01	The C.G. Broach Heaters are subject to the particulate standard in this rule. Each heater is less than 250 million Btu/hr capacity. Per R18-2-724.J, the opacity shall not exceed 15% in any six-minute period. Permit condition I.B.3 of Attachment B limits the fuel to pipeline quality gas.

R18-2-306.01, R18-2-331, 40 CFR 60.8 & 40 CFR 52.21	1. AAPL is permitted to burn only natural gas in the turbines. Permit conditions Section I.A.5 of Attachment B contain this standard, this is a material permit condition; 2. They shall operate only two of the three turbines simultaneously. These are limitations accepted in order to avoid New Sources Review. The PTE of three turbines and two heaters for NOx is 285.86 tpy. This will trigger PSD review. However, this facility is only permitted to operate two of its three turbines at any given time except 15 minute switchover period between operating units. By limiting the maximum number of switchovers 3,650 per year, the PTE is reduced to 216.26. Therefore, no PSD permit is required. Permit condition I.A.3 of Attachment B contains this standard; 3. The initial performance test required by NSPS was conducted on October 12, 1990 at near 80% pumping capacity. Pursuant to 40 CFR, the performance test should be conducted at maximum production rate. Since the initial performance test could not be conducted at full capacity, a 90% pumping capacity limit was placed on the turbines which includes a 10% "operational cushion". Permit condition I.A.4 of Attachment B contains this standard.
Fugitive Sources	
R18-2-730.F	There are hundreds of piping components such as valves, flanges and connections on site. VOC emissions from these types of components listed above are defined as process fugitive emissions. They are unclassified sources, and subject to A.A.C. R18-2-730.F. Permit condition Section I.E of Attachment B contains this condition.
R18-2-726 R18-2-702.B R18-2-306.01	Sandblasting will be conducted on site occasionally, as required for maintenance purposes. Pursuant to A.A.C. R18-2-726, example of good modern practices include wet blasting and the use of effective enclosure with necessary dust collecting equipment. The source requested to use alternative abrasive medium such as hydroblasting, vacuum blasting and permissible dry blasting using California Air Resources Board (CARB) certified abrasives (CARB Executive Order G-94-054).

R18-2-727 R18-2-702.B SIP R9-3-527.C	Spray painting will be conducted on site occasionally, as required for maintenance purposes. R18-2-727.A and R18-2-727.B are included in the approved State Implementation Plan (SIP). R18-2-727.C and R18-2-727.D are also a part of the approved SIP. They are present in the definitions section of the SIP as R9-3-101.117. EPA approved SIP provision R9-3-527.C is not present in the amended rule. However, R9-3-527.C is an applicable requirement, and is federally enforceable till the current State SIP is approved by the EPA. Note: Architectural coating and spot painting shall be exempt from the requirement.
Article 6	Non-point sources The standards in Article 6 are applicable requirements for open areas and on-site vehicular traffic. The AAPL Hot Springs site is located in a remote area. AAPL pump station typically has areas which are graveled. Per Mark Olson of AAPL, they just completed adding gravel on site in November, 1996. The regulations in Article 6 are applicable requirements and as such, are included in the permit.

II. MONITORING & RECORDKEEPING REQUIREMENTS

A. Stationary Gas Turbines

40 CFR 60.334(b) requires the source to monitor and record sulfur content and nitrogen content of fuel in the turbine daily.

The natural gas AAPL uses for firing turbines and heaters is delivered by El Paso Natural Gas Company. AAPL has a transportation service agreement with El Paso. The agreement states that El Paso delivers natural gas which conforms to standards approved by the Federal Energy Regulatory Commission (FERC) to All American Pipeline. One of the FERC standards limits the sulfur content in the gas to less than 5 grains/100 scf (which is equivalent to 0.017 weight percent of sulfur). Another FERC standard specifies that the heating value be greater than or equal to 967 Btu per cubic foot. AAPL operates the gas turbines with pipeline quality natural gas, and therefore it was decided that maintaining a copy of the FERC approved Tariff agreement on-site would be an adequate means of complying with the monitoring requirements for the sulfur fuel use standards. In addition to above requirement, the source also requested to have EPA approved custom fuel monitoring schedule as the second choice. The Department has accepted this requirement for use of EPA approved custom fuel monitoring schedule

based on EPA Memorandum Authority for Approval of Custom Fuel monitoring Schedules Under NSPS Subpart GG, August 14, 1987.

This permit contains a waiver of the requirements of 40 CFR 60.334(b): monitoring of fuel bound nitrogen as per EPA Memorandum Authority for Approval of Custom Fuel monitoring Schedules Under NSPS Subpart GG, August 14, 1987. Number 1 of the enclosure states: "Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine."

B. Non-point Sources

As discussed in the emissions limits section, the non-point source standards have been included in the permit because of the existence of applicable requirements. It would be impractical to impose any rigorous monitoring schedules for these standards, and as such, II.F.1 is a recordkeeping requirement, directing the source to keep a record of all the efforts taken towards mitigating visible emissions from open areas. Also, monitoring requirements for the applicable open burning rule may be satisfied by keeping all open burn permits on file.

C. Other Periodic Activities

Other activities which have applicable rules are abrasive blasting and spray painting. It was decided to prescribe minimal monitoring requirements.

D. Ancillary Piping Components

The ancillary piping components are fugitive emission sources. After discussions with the source, it is decided that AAPL shall check for leak from valves, flanges, connections, etc. by visual inspection on a monthly basis, and log the findings of the inspection.

III. TESTING REQUIREMENTS

AAPL is subject to emission limits for NOx and SO2 per Subpart GG and is subject to emissions limits for PM per A.A.C. R18-2-724. Due to combustion of natural gas, the emissions of PM and SO2 are very low. Hence performance test will be conducted if a need arises. However, in the case of NOx, AAPL has conducted 3 tests so far, all of which showed compliance with the limits. The latest test conducted on May 22, 1997 shows that the emission of NOx is 108.6 ppm @15% oxygen. The allowable emission rate is 222 ppm @15% oxygen. Please see Section IV of this technical review document for testing requirement.

IV. LIST OF INSIGNIFICANT ACTIVITIES

In the permit application, AAPL provided a list of insignificant activities:

(1) One emergency generator*
(2) Pig launching/receiving
(3) Tanks
(4) Electric pumps

It was decided that each of these items qualified for classification as an insignificant activity, and as such were included in the list in Attachment "E".

Abrasive Blasting : Abrasive blasting activities have an applicable requirement in the Arizona Administrative Code(A.A.C). Also, according to the definition in A.A.C. R18-2-101.54, for an activity to be classified as insignificant, it should not have *any* applicable requirement. All projects have to comply with the general requirements of R18-2-726 and R18-2-702.B. Refer to Attachment B, I.D.1 and II.G.1.

Spray Painting : A similar argument as abrasive blasting above provides the reason for including R18-2-726 as an applicable requirement. Refer to Attachment B, I.D.2 and II.G.2.

Note:

* : AAPL requested to add one 166 hp, diesel fired emergency generator through R18-2-317 change on July 8, 1997. It was determined that the request meets the requirements of R18-2-317 because it is an insignificant activity per R18-2-101.54.h. AAPL requested to remove the existing one 400, natural gas fired emergency generator through R18-2-317 change on July 28, 1997. As a result of the changes, AAPL ONLY has one 166 hp, diesel fired emergency generator on site.